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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,909	05/30/2006	Tadashi Sao	DK-US040366	6843
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EXAMINER				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/580,909

**Applicant(s)**

SAO ET AL.

**Examiner**

MOHAMMAD M. ALI

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 03/31/09, 05/30/06, 11/21/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 -21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishomoto Kazuyuki (hereinafter Kazuyuki) (JP 2003-262435 A) in view of Tamura (JP 2002-276970 A). Kazuyuki discloses a branching pipe joint comprising a substantially Y-pipe shaped branch part (22) comprising an inlet pipe part (see the part between 22 and 23) through which a refrigerant flows in from a main pipe, and a first outlet pipe part (27) and a second outlet pipe part (32) through which flows the refrigerant along a first direction, which is a flow direction of the refrigerant that flows through the inlet pipe part (see the part between 22 and 23), and along the first direction in paths substantially symmetric to a centerline of said inlet pipe part (see the part between 22 and 23);

a first branch nozzle part (28) connected to the first outlet pipe part (27) and extending along the first direction to a first tip part (see the tip part at the joining point of (nozzle part 28 and pipe 29) with a first free end (positioned in the joint of pipe 28 and 29) aligned with a first outlet pipe part (27), the first tip part having a flared part (see the joint of pipe 28 and 29) ;

a second branch nozzle part (33) connected to said second outlet pipe part (32) and extending along said first direction to a reducer pipe connection part (6 having a reducer connection portion connecting a pipe of reduced diameter pipe 31 than the larger diameter pipe 33) with a second free end (both pipe 33 and 31 have free end) aligned with said second outlet pipe part (32, though the connection point 6 is not in a straight line to the point 32, the Examiner considers the flow through the pipe 33 and 31 is stream lined through the joint 6, in other words the aligning a pipe in a curve way or in a straight way is a obvious design choice, since there is no criticality or unexpected result from it; however, Fig. 5 shows that connection pipe part 43 connecting second branch nozzle part between 43 and 32 aligned with the second outlet pipe part 32, therefore, it is an obvious design choice for aligning a pipe connection with respect to some component because ther is no criticality or unexpected result from it and it is an well known feature in the art as shoen by Fig. 2 and 5 of Kazuyuki), said second free end (positioned with 6) being spaced a distance in said first direction from said first free end (positioned in the joint of pipe 28 and 29) of said first tip part (see the joint portion of pipe 28 and 29), and said reducer pipe connecting part (6) having a pipe diameter that reduces step (the Examiner considers the component 6 has a reduced pipe diameter step to hold the reduced diameter pipe 31) as the second free end (see joining portion 6) is approached; and

a first branch pipe (29) with an end received in the flared part (the joining part of pipe 28 and 29) and connected to said first tip part (see the joint of pipe 28 and 29) of said first branch nozzle (28), said first branch pipe (29) being bent so that another end

faces a direction that intersects said first direction (see Fig. 2) in a state in which said first branch pipe (29) is connected to said first branch nozzle part (28) within said flared part (see the joint portion of pipe 28 and 29), and said first branch pipe (29) having a maximum length measured along said first direction that is smaller than said distance between said first (free end at first joining point of pipes 28 and 29) and second free ends (see the second free end at 6), such that said reducer pipe said reducer pipe connection projects in said first direction (here the projection is not in the first direction but in a second bent direction parallel to the bent direction of pipe 29 as shown in Fig. 2, however, in Fig 5, the pipe connection part 43 projects in the first direction of claimed invention; therefore, the projection of a pipe connection part either in first direction or else is obvious design of an individual skilled in that the art) beyond said first branch pipe (29).

Kazuyuki discloses the invention substantially as claimed as stated above except insulation and. Tamura teaches the use of thermal insulation material 7 applied on the branch nozzle parts 8 in for a particular length portion as seen in Fig. 2 in refrigeration piping system for the purpose of insulating the pipes to protect thermal energy loss. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the branching pipe of Kazuyuki in view of Tamura such that insulation could be provided in order to insulate the branch nozzle pipe to protect heat energy loss. Further, Kazuki discloses the invention substantially as claimed as stated above except the spacing between the portion of the second branch

nozzle part nearest the tip part of the first branch nozzle part is less than or equal to 40 mm. See Figs.1, 2 4, 5 and enclosed translation.

Regarding claim 1, the above combined disclosure of Kazuyuki and Tamura obviously meets the limitations of claim 1.

Regarding claims, 2, 16 and 19, for braze connection of branch pipe with nozzle part and having a spacing between a first tip part and second a second branch nozzle part, the spacing being greater than or equal to 7 mm for claim 2 and 40mm for claim 16. The braze connection is well known in the art and Kazuyuki teaches how to space between first tip part with first nozzle part 28 and the second branch part 33. Therefore, the general concept of spacing between two pipes falls within the common knowledge as obvious mechanical expedient. This is well known in the art as illustrated by Kazuyuki which teach how to maintain space between two pipes 28 and 29. Therefore, having a space greater than or equal to 7 mm or 40mm or any other desired spacing extent is an obvious design choice which can be met by an ordinary skill of art by the common knowledge gained from Kazuyuki as explained above.

Regarding claim 3-5 the feature 6 is the second reducer pipe connection part in which pipe diameter changes.

Regarding claim 6 for plurality of outdoor units as Kazuyuki disclose indoor units 1 in Fig. 1 is an obvious duplication of a single outdoor unit. Again plural outdoor units is known feature in the art and ordinary skilled in the art would be able to obviously connect the plural outdoor unit with Kazuyuki. Regarding pipe diameter changing in

steps in a known feature in the art and it can be obviously implemented by an ordinary skill of art since there is no criticality or unexpected result from it.

Regarding claim 7, Kazuyuki discloses that said reducer pipe connecting part (6) of said second tip part of said second branch nozzle part (33).

Regarding claim 8, Kazuyuki discloses that said reducer pipe connection part (6) of said second tip part of a second branch nozzle part (33), said second branch pipe (31) including an end received in a flared end (the Examiner considers the part 6 receiving a large diameter pipe 33 and small diameter pipe 31 has a flared end; alternatively flared connection is an well known feature in the art.

Regarding claims 9-10 and 14, branch pipe joints are done according to the number of outdoor units and distributing a flow of a refrigerant to two flows; and plurality of unit branch piping that each connects said alt least one branch pipe joint to a connection port of one of said outdoor units. Kazuyuki teaches how to join branch pipes as described above. However, having a number of branch pipe joining as per number of outdoor units is an obvious duplication of teachings as given by Kazuyuki as explained above.

Regarding claim 11, Kazuyuki discloses step connection (6) or step connection is an well known feature in the art.

Regarding 12, Kazuyuki discloses reducer pipe connecting part (6) of said tip part, or reducer pipe connection part is an well known part in the art.

Regarding claim 13, Kazuyuki discloses a reducer pipe connecting part (6) of said second tip part of a second branch pipe (31) having an end connected to said

second branch nozzle part (33), said second branch pipe (31) including an end received in a flared end of said second branch nozzle part (33).

Regarding claim 15, Kazuyuki discloses the substantial disclosure of claim 15 in the claim rejection of claim 1 above, further Kazuyuki discloses for the connecting branch pipe joint to said union connecting piping in accordance with a number of said outdoor units is an obvious duplication of a single connection as shown by Kazuyuki as explained above. Regarding, branching pipe joint being connected to said union connecting piping in horizontal arrangement can be seen in Fig. 5 of Kazuyuki; wherein Kazuyuki shows a part of pipe 42 connected by connecting part 43 with another pipe disposed between the connecting part 43 and the member 32. The connection is horizontal to the first portion of pipe 29 and thus including rest of the claim of 15, Kazuyuki obviously meets the limitations of claim 15 as the teaching of Fig. 5 is obvious on Fig. 2.

Regarding claims 17-18 and 20-21, Kazuyuki discloses the substantially as claimed as stated above except insulation over the pipe. Tamura discloses how to use an insulation material 7 on a refrigeration pipe 8 to desired extent of surface of the pipe 8 for the purpose of efficient heat transfer. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the pipe joint of Kazuyuki in view of Tamura such insulation could be provided to a desired pipe surface at any location for any desired length in order to achieve increased efficiency of heat transfer.



Regarding claim 22, Kazuyuki discloses flared end (6) but does not extend in the first direction. However, Kazuyuki discloses in Fig. 5, the connection to similar to connection 6 is spaced in the first direction. Therefore, it obvious some connection spaced in the fist direction or else.

***Response to Arguments***

***Regarding IDS of November 21, 2007 has already been considered and signed on***

***11/05/09***

Applicant's arguments filed 02/19/09 have been fully considered but they are not persuasive. The Applicants argue that Kishimoto publication does not disclose a combination of a flared end on one branch nozzle part and a reducer pipe part on the other branch nozzle part. The Examiner disagrees. Kishimoto publication discloses a nozzle part 28 with a tip part on its right side. The tip parts both ends mouths are flared in which the one end of nozzle part 28 is engaged and thus one end of the nozzle part 28 becomes flared. Kishimoto publication further discloses a second nozzle part 33 is a pipe of larger diameter and connects a pipe 31 which is of smaller diameter that the nozzle part or pipe 33. The Examiner considers the item 6 as a step connector for a wider diameter pipe 33 and stepping down to a smaller diameter to connect smaller diameter pipe 33. Therefore, the Applicants argument that Kishimoto publication does not disclose a combination of a flared end on one branch nozzle part and a reducer pipe part on the other branch nozzle part is not persuasive.

The Applicant argues that Kishimoto/Kazuyuki publication (JP2003-262435) does not include heat insulating material and undermines the 103 rejection in combination with Tamura.. From the above argument it indicates that the Applicant ignores the implication of obviousness rejection made by combined references and attacks the references individually. It is mention that one cannot show non-obviousness by attacking references individually where the rejections are based on combination of references. See in re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Mark & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Therefore, Applicant attacking to reference of Kazuyuki is not acceptable when the lacking part of pipe insulation is taught by Tamura for an obviousness rejection.

The Applicant further argues with disagreement with Tamura publication with a view that insulating material 7 of Tamura as it covers all the portion of the connecting pipe 8.

The Examiner disagrees. The insulating material of Tamura as shown in Figs 2 and 3 does not cover the entire pipe 8. A portion pipe 8 an shown in Fig. 2 is still shown uncovered. As shown in Fig. 3 couple of branch pipes originates from the insulating material cover 7 are shown uncovered. However, a part of pipe to be insulated is according to the need of the design aspects which falls within the ream of common knowledge as obvious mechanical expedient and this is illustrated by Tamura which teaches how to use an insulating material 7 on a desired pipe length of pipe 8 or a branch pipes as shown in Figs 2 an3. Therefore, it would have been obvious to an individual having ordinary skill in the art as taught by Tamura to use insulating material

on a desired pipe length in order to achieve an increased efficiency in heat transfer system.

Therefore, the above argument of the Applicant is not acceptable.

The Applicant further argues that Kishimoto/Kazuyuki does not indicate the branching method of new claim 15. The Applicant refers Paragraph [0018] of Kishimoto/Kazuyuki and cites that the bottom branch pipe 23 is arranged at the state where it inclined to the level of surface, and the 2<sup>nd</sup> end connection 27 is in a position higher than 4<sup>th</sup> end connection 32. Thus the branching method of Kishimoto/Kazuyuki teaches away from the horizontal branch arrangement of the Y-pipe shaped branch part of new claim 15.

The Examiner disagrees. The Applicant is requested to see the drawing 5 of Kazuyuki. Wherein Kazuyuki teaches the use of horizontally connecting part 43 connecting a part of pipe 42 horizontally with another pipe disposed between the connection part 43 and the connection 32. This teaching of Kazuyuki is obvious to use with Fig. 2 of Kazuyuki and thus obviously meets the limitations of the new claim 15 and others as well as discussed in the claim rejections above. Therefore, the above argument that Kishimoto/Kazuyuki teaches away from the horizontal branch arrangement is not based on facts.

In response to applicant's argument that there is no suggestion or teaches away to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, The combining two pipes are taught by a single art of Kishimoto publication with different Figs as explained above and combination of insulation with two different arts both are of the same analogous group. Therefore combined teaching of two different arts of the analogous group and different Figs of the same art cannot teach away modification as explained above.

Therefore, rejections are ok.

The Applicants further cite that under U.S. patent law, the mere fact that the prior art can be modified does *not* make the modification obvious, unless an *apparent reason* exists based on evidence in the record or scientific reasoning for one of ordinary skill in the art to make the modification. See, KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1741 (2007). The KSR Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some "apparent reason to combine the known elements in the fashion claimed." *Id.* at 1741. In this case, the current record lacks any apparent reason, suggestion or expectation of success for modifying the device of the Kishimoto publication to result in the piping structure claimed. In fact, the Office Action merely asserts that certain features are obvious design choices due to a perceived lack of criticality or unexpected result. This reasoning is flawed because the Office

Action does not provide an appropriate reason for modifying the prior art, especially in view of the teachings in the K.ishimoto publication away from the alleged modification, as explained.

As explained above, when combining two analogous prior to show a combined teaching to equate the claimed element as obvious cannot be taken as invalid without proper reason. The combination has been made with analogous arts with justified reasons as explained above and thus rejections are correct.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **MOHAMMAD M. ALI** whose telephone number is (571)272-4806. The examiner can normally be reached on maxiflex.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad M Ali/  
Primary Examiner, Art Unit 3744